Combined Systems MODEL 4340 40mm OC Liquid Barricade Projectile

Winchester Australia Ltd

Chemwatch Hazard Alert Code: **4**

Chemwatch: **4898-90**
Version No: **4.1.1.1**
Safety Data Sheet according to WHS and ADG requirements

Issue Date: **13/03/2019**
Print Date: **11/07/2019**
L.GHS.AUS.EN

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

Product Identifier

Product name	Combined Systems MODEL 4340 40mm OC Liquid Barricade Projectile
Synonyms	Not Available
Proper shipping name	AMMUNITION, TEAR-PRODUCING with burster, expelling charge or propelling charge
Other means of identification	Not Available

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	Explosive product producing irritant capsicum for crowd dispersal.

Details of the supplier of the safety data sheet

Registered company name	**Winchester Australia Ltd**
Address	65 Hays Road Moolap, Geelong VIC 3224 Australia
Telephone	+61 3 5245 2400
Fax	+61 3 5248 2409
Website	Not Available
Email	aedmondson@olin.com.au

Emergency telephone number

Association / Organisation	**Winchester Australia**
Emergency telephone numbers	**0418 158 337 All hours**
Other emergency telephone numbers	**Not Available**

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

HAZARDOUS CHEMICAL. DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.

CHEMWATCH HAZARD RATINGS

		Min	Max
Flammability	1		
Toxicity	1		
Body Contact	2		
Reactivity	4		
Chronic	2		

0 = Minimum
1 = Low
2 = Moderate
3 = High
4 = Extreme

Poisons Schedule	Not Applicable
Classification [1]	Explosive Division 1.4, Self Reactive Type A, Skin Corrosion/Irritation Category 2, Eye Irritation Category 2A, Carcinogenicity Category 2, Reproductive Toxicity Category 2, Specific target organ toxicity - single exposure Category 3 (respiratory tract irritation), Specific target organ toxicity - repeated exposure Category 2, Acute Aquatic Hazard Category 2
Legend:	*1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI*

Label elements

Hazard pictogram(s)

SIGNAL WORD	**DANGER**

Hazard statement(s)

H204	Fire or projection hazard.
H240	Heating may cause an explosion.

Continued...

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H351	Suspected of causing cancer.
H361d	Suspected of damaging the unborn child.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
H401	Toxic to aquatic life.

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P234	Keep only in original container.
P250	Do not subject to grinding/shock/sources of friction.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P281	Use personal protective equipment as required.
P220	Keep/Store away from clothing/organic material/combustible materials.
P240	Ground/bond container and receiving equipment.
P273	Avoid release to the environment.

Precautionary statement(s) Response

P308+P313	IF exposed or concerned: Get medical advice/attention.
P362	Take off contaminated clothing and wash before reuse.
P370+P380	In case of fire: Evacuate area.
P370+P380+P375	In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.
P372	Explosion risk in case of fire.
P374	Fight fire with normal precautions from a reasonable distance.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P373	DO NOT fight fire when fire reaches explosives.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P337+P313	If eye irritation persists: Get medical advice/attention.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P370+P378	In case of fire: Use water spray/fog for extinction.

Precautionary statement(s) Storage

P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P411	Store at temperatures not exceeding 30°C/86°F (see storage requirements on SDS).
P401	Store according to local regulations for explosives.
P420	Store away from other materials.

Precautionary statement(s) Disposal

P501	Dispose of contents/container in accordance with local regulations.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
75-09-2	>50	methylene chloride
68917-78-2	10-25	Capsicum annum oleoresin
55-63-0	<10	nitroglycerin
63918-97-8	<0.1	lead styphnate

SECTION 4 FIRST AID MEASURES

Continued...

Description of first aid measures

Eye Contact	If this product comes in contact with the eyes: ▸ Wash out immediately with fresh running water. ▸ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▸ Seek medical attention without delay; if pain persists or recurs seek medical attention. ▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin contact occurs: ▸ Immediately remove all contaminated clothing, including footwear. ▸ Flush skin and hair with running water (and soap if available). ▸ Seek medical attention in event of irritation.
Inhalation	▸ If fumes or combustion products are inhaled remove from contaminated area. ▸ Lay patient down. Keep warm and rested. ▸ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ▸ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ▸ Transport to hospital, or doctor. ▸ Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema. ▸ Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs). ▸ As this reaction may be delayed up to 24 hours after exposure, affected individuals need complete rest (preferably in semi-recumbent posture) and must be kept under medical observation even if no symptoms are (yet) manifested. ▸ Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered. **This must definitely be left to a doctor or person authorised by him/her.** (ICSC13719)
Ingestion	▸ Not considered a normal route of entry. ▸ For advice, contact a Poisons Information Centre or a doctor at once. ▸ Urgent hospital treatment is likely to be needed. ▸ If swallowed do **NOT** induce vomiting. ▸ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. ▸ Observe the patient carefully. ▸ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. ▸ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. ▸ Transport to hospital or doctor without delay.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

▸ **WARNING**: Deliver water spray or fog from a safe distance only.

Special hazards arising from the substrate or mixture

Fire Incompatibility	▸ Avoid contact with other explosives, pyrotechnics, solvents, adhesives, paints, cleaners and unauthorized metals, plastics, packing equipment and materials. ▸ Avoid contamination with acids, alkalis, reducing agents, amines and phosphorus.

Advice for firefighters

Fire Fighting	**WARNING**: EXPLOSIVE MATERIALS / ARTICLES PRESENT! ▸ Evacuate all personnel and move upwind. ▸ Prevent re-entry. ▸ Alert Fire Brigade and tell them location and nature of hazard. ▸ May detonate and burning material may be propelled from fire. ▸ Wear full-body protective clothing with breathing apparatus. ▸ Prevent, by any means available, spillage and fire effluent from entering drains and water courses. ▸ Fight fire from safe distances and from protected locations. ▸ Use flooding quantities of water. ▸ **DO NOT** approach containers or packages suspected to be hot. ▸ Cool any exposed containers not involved in fire from a protected location. ▸ Equipment should be thoroughly decontaminated after use.
Fire/Explosion Hazard	Division 1.4 Substances, mixtures and articles which present no significant hazard: substances, mixtures and articles which present only a small hazard in the event of ignition or initiation. The effects are largely confined to the package and no projection of fragments of appreciable size or range is to be expected. An external fire shall not cause virtually instantaneous explosion of almost the entire contents of the package. Compatibility Group E explosives are articles containing a secondary detonating explosive substance, without means of initiation, with a propelling charge (other than one containing a flammable liquid or gel or hypergolic liquids) |Individual devices will randomly explode. Will not mass explode if multiple devices are involved.|In unusual cases, shrapnel may be thrown from exploding devices under containment
HAZCHEM	1YE

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Continued...

Minor Spills	**WARNING!: EXPLOSIVE**. BLAST and/or PROJECTION and/or FIRE HAZARD ▸ Clean up all spills immediately. ▸ Avoid inhalation of the material and avoid contact with eyes and skin. ▸ Wear impervious gloves and safety glasses. ▸ Remove all ignition sources. ▸ Use spark-free tools when handling. ▸ Sweep into non-sparking containers or barrels and moisten with water. ▸ Place spilled material in clean, sealable, labelled container for disposal. ▸ Flush area with large amounts of water.
Major Spills	**WARNING!** EXPLOSIVE. ▸ Clear area of personnel and move upwind. ▸ Alert Fire Brigade and tell them location and nature of hazard. ▸ May be violently or explosively reactive. ▸ Wear full body protective clothing with breathing apparatus. ▸ Consider evacuation (or protect in place). ▸ In case of transport accident notify Police, Emergency Authority, Competent Explosives Authority or Manufacturer. ▸ No smoking, naked lights, heat or ignition sources. ▸ Increase ventilation. ▸ Use extreme caution to prevent physical shock. ▸ Use only spark-free shovels and explosion-proof equipment. ▸ Collect recoverable material and segregate from spilled material. ▸ Wash spill area with large quantities of water.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	▸ Handle gently. Use good occupational work practice. ▸ Observe manufacturer's storage and handling recommendations contained within this SDS. ▸ Avoid all personal contact, including inhalation. ▸ Avoid smoking, naked lights, heat or ignition sources. ▸ Explosives must not be struck with metal implements. ▸ Avoid mechanical and thermal shock and friction. ▸ Use in a well ventilated area. ▸ Avoid contact with incompatible materials. ▸ When handling **DO NOT** eat, drink or smoke. ▸ Avoid physical damage to containers. ▸ Always wash hands with soap and water after handling. ▸ Work clothes should be laundered separately. |Under normal handling, no exposure to harmful materials will occur.
Other information	▸ Store cases in a well ventilated magazine licensed for the appropriate Class, Division and Compatibility Group. ▸ Rotate stock to prevent ageing. Use on FIFO (first in-first out) basis. ▸ Observe manufacturer's storage and handling recommendations contained within this SDS. ▸ Store in a cool place in original containers. ▸ Keep containers securely sealed. ▸ No smoking, naked lights, heat or ignition sources. ▸ Store in an isolated area away from other materials. ▸ Keep storage area free of debris, waste and combustibles. ▸ Protect containers against physical damage. ▸ Check regularly for spills and leaks **NOTE**: If explosives need to be destroyed contact the Competent Authority.

Conditions for safe storage, including any incompatibilities

Suitable container	▸ All packaging for Class 1 Goods shall be in accordance with the requirements of the relevant Code for the transport of Dangerous Goods. ▸ Class 1 is unique in that the type of packaging used frequently has a very decisive effect on the hazard and therefore on the assignment to a particular division
Storage incompatibility	▸ Reacts with acids producing flammable / explosive hydrogen (H2) gas ▸ Avoid reaction with oxidising agents ▸ Avoid strong acids, acid chlorides, acid anhydrides and chloroformates. ▸ Explosion hazard may follow contact with incompatible materials

X X X X X X X

X — Must not be stored together
0 — May be stored together with specific preventions
+ — May be stored together

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	methylene chloride	Methylene chloride	50 ppm / 174 mg/m3	Not Available	Not Available	Not Available

Continued...

Australia Exposure Standards	nitroglycerin	Nitroglycerine (NG)	0.05 ppm / 0.46 mg/m3	Not Available	Not Available	Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
methylene chloride	Methylene chloride; (Dichloromethane)	Not Available	Not Available	Not Available
nitroglycerin	Nitroglycerin	0.1 mg/m3	2 mg/m3	75 mg/m3

Ingredient	Original IDLH	Revised IDLH
methylene chloride	2,300 ppm / 2,000 ppm	Not Available
Capsicum annum oleoresin	Not Available	Not Available
nitroglycerin	75 mg/m3	Not Available
lead styphnate	100 mg/m3	Not Available

MATERIAL DATA

Exposure controls

Appropriate engineering controls	Usually used outdoors.
Personal protection	
Eye and face protection	▸ Chemical goggles. ▸ Full face shield may be required for supplementary but never for primary protection of eyes. ▸ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]
Skin protection	See Hand protection below
Hands/feet protection	Wear physical protective gloves, e.g. leather ▸ Heavy weight Rubber gloves ▸ Rubber boots · Non-sparking or conductive footwear essential. Conductive footwear describes a boot or shoe with a sole made from a conductive compound chemically bound to the bottom components, for permanent control to electrically ground the foot an shall dissipate static electricity from the body to reduce the possibility of ignition of volatile compounds. Electrical resistance must range between 0 to 500,000 ohms. Conductive shoes should be stored in lockers close to the room in which they are worn. Personnel who have been issued conductive footwear should not wear them from their place of work to their homes and return.
Body protection	See Other protection below
Other protection	For handling explosives or explosive compositions: ▸ Wear close-fitting flame-protection treated clothing closed at the neck and sleeves. ▸ Cotton underwear, socks and conductive shoes are recommended to avoid human static discharge.

Recommended material(s)

GLOVE SELECTION INDEX

Respiratory protection

Type AX-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.
Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	AX-AUS P2	-	AX-PAPR-AUS / Class 1 P2
up to 50 x ES	-	AX-AUS / Class 1 P2	-
up to 100 x ES	-	AX-2 P2	AX-PAPR-2 P2 ^

^ - Full-face
A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

- Respirators may be necessary when engineering and administrative controls do not adequately prevent exposures.
- The decision to use respiratory protection should be based on professional judgment that takes into account toxicity information, exposure measurement data, and frequency and likelihood of the worker's exposure - ensure users are not subject to high thermal loads which may result in heat stress or distress due to personal protective equipment (powered, positive flow, full face apparatus may be an option).
- Published occupational exposure limits, where they exist, will assist in determining the adequacy of the selected respiratory protection. These may be government mandated or vendor recommended.

Continued...

Glove selection is based on a modified presentation of the:
"Forsberg Clothing Performance Index".
The effect(s) of the following substance(s) are taken into account in the ***computer-generated*** selection:
Combined Systems MODEL 4340 40mm OC Liquid Barricade Projectile

Material	CPI
BUTYL	C
CPE	C
NATURAL RUBBER	C
NEOPRENE	C
PE/EVAL/PE	C
PVA	C
TEFLON	C
VITON	C
VITON/BUTYL	C
VITON/CHLOROBUTYL	C

* CPI - Chemwatch Performance Index
A: Best Selection
B: Satisfactory; may degrade after 4 hours continuous immersion
C: Poor to Dangerous Choice for other than short term immersion
NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -
* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

- Certified respirators will be useful for protecting workers from inhalation of particulates when properly selected and fit tested as part of a complete respiratory protection program.
- Use approved positive flow mask if significant quantities of dust becomes airborne.
- Try to avoid creating dust conditions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Solid dark grey metal container containing liquid and solid contents.

Physical state	Manufactured	**Relative density (Water = 1)**	Not Applicable
Odour	Not Available	**Partition coefficient n-octanol / water**	Not Available
Odour threshold	Not Available	**Auto-ignition temperature (°C)**	Not Available
pH (as supplied)	Not Applicable	**Decomposition temperature**	Not Available
Melting point / freezing point (°C)	Not Applicable	**Viscosity (cSt)**	Not Applicable
Initial boiling point and boiling range (°C)	Not Applicable	**Molecular weight (g/mol)**	Not Applicable
Flash point (°C)	Not Applicable	**Taste**	Not Available
Evaporation rate	Not Applicable	**Explosive properties**	Not Available
Flammability	Not Applicable	**Oxidising properties**	Not Available
Upper Explosive Limit (%)	Not Applicable	**Surface Tension (dyn/cm or mN/m)**	Not Applicable
Lower Explosive Limit (%)	Not Applicable	**Volatile Component (%vol)**	Not Available
Vapour pressure (kPa)	Not Applicable	**Gas group**	Not Available
Solubility in water	Not Applicable	**pH as a solution (1%)**	Not Applicable
Vapour density (Air = 1)	Not Available	**VOC g/L**	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	▸ Presence of shock and friction ▸ Presence of heat source and ignition source ▸ Product is considered stable under normal handling conditions. ▸ Stable under normal storage conditions. ▸ Hazardous polymerization will not occur. Avoid contact with other chemicals. |May detonate if case is punctured or severely damaged.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Continued...

Information on toxicological effects

Inhaled	Not normally a hazard due to physical form of product. Evidence shows, or practical experience predicts, that the material produces irritation of the respiratory system, in a substantial number of individuals, following inhalation. In contrast to most organs, the lung is able to respond to a chemical insult by first removing or neutralising the irritant and then repairing the damage. The repair process, which initially evolved to protect mammalian lungs from foreign matter and antigens, may however, produce further lung damage resulting in the impairment of gas exchange, the primary function of the lungs. Respiratory tract irritation often results in an inflammatory response involving the recruitment and activation of many cell types, mainly derived from the vascular system. Capsaicin temporarily causes bronchoconstriction, coughing, nausea, and incoordination in the upper body in humans following inhalation. Capsaicin administered in a nasal spray resulted in human volunteers experiencing greatly increased nasal discharge and lacrimation, and burning sensation.
Ingestion	Not normally a hazard due to physical form of product.
Skin Contact	Not normally a hazard due to physical form of product. The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.
Eye	Not normally a hazard due to physical form of product. The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
Chronic	On the basis, primarily, of animal experiments, concern has been expressed that the material may produce carcinogenic or mutagenic effects; in respect of the available information, however, there presently exists inadequate data for making a satisfactory assessment. Chronic feeding studies in rodents consistently demonstrated weight loss when animals were either dosed via gavage or when the capsaicin was mixed with the food. However, another feeding study showed no such effects using ground red pepper *Capsicum annuum* at up to 10% of the total diet in mice. Different diets affected the toxic effects of capsaicin on the liver and spleen in rabbits, such that effects were greatest in animals fed the high-fat diets. In contrast, animals fed high protein, high carbohydrate diets showed no effects relative to controls. Test animals were given 5 g/kg of “red pepper” daily for one year. Researchers applied pure capsaicin topically to the backs of mice once weekly for 26 weeks. Doses of 0.64, 1.28, and 2.56 mg/mouse/week resulted in skin abnormalities including inflammation, epidermal crusts, epidermis thickening, and ulcerations. Other signs included gross lesions in the stomach, salivary glands, and oral cavity. Capsaicin applied to the hind-paws of rats twice daily for 10 weeks led to increased pain sensitivity in the animals exposed to the highest dose (0.75% capsaicin) although this sensitivity decreased with time. Rats treated with a lower dose (0.075% capsaicin) demonstrated reduced function in certain cells known as C fibers following prolonged dosing,but this impairment disappeared after treatment stopped. Chronic exposure to capsaicin in a factory setting resulted in cough thresholds that were related to the extent of exposure on the job. Workers exposed to capsaicin demonstrated a bimodal cough threshold response that was not observed in unexposed workers, who showed a unimodal response. Some exposed workers were much more sensitive to capsaicin than other exposed workers A condition known as “Hunan hand”, which is a form of contact dermatitis, has been noted in workers handling peppers |May cause damage to organs through prolonged or repeated exposure.|Explosive components are completely sealed within the metal container.|Under normal handling of this product, no exposure to harmful materials will occur.

Combined Systems MODEL 4340 40mm OC Liquid Barricade Projectile	**TOXICITY**	**IRRITATION**
	Not Available	Not Available

methylene chloride	**TOXICITY**	**IRRITATION**
	dermal (rat) LD50: >2000 mg/kg[2]	Eye(rabbit): 162 mg - moderate
	Inhalation (rat) LC50: 76 mg/l/4H[2]	Eye(rabbit): 500 mg/24hr - mild
	Oral (rat) LD50: 985 mg/kg[2]	Skin (rabbit): 100mg/24hr-moderate
		Skin (rabbit): 810 mg/24hr-SEVERE

Capsicum annum oleoresin	**TOXICITY**	**IRRITATION**
	dermal (rat) LD50: >2500 mg/kg[2]	Not Available
	Inhalation (rat) LC50: >10 mg/l/4h*[2]	
	Oral (rat) LD50: >3000 mg/kg[2]	

nitroglycerin	**TOXICITY**	**IRRITATION**
	dermal (rat) LD50: =29.2 mg/kg[2]	Eye: no adverse effect observed (not irritating)[1]
	Oral (rat) LD50: 105 mg/kg[2]	Skin: adverse effect observed (irritating)[1]

lead styphnate	**TOXICITY**	**IRRITATION**
	dermal (rat) LD50: >2000 mg/kg[1]	Not Available
	Inhalation (rat) LC50: >5.05 mg/l4 h[1]	
	Oral (rat) LD50: >2000 mg/kg[1]	

Legend:	*1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances*

METHYLENE CHLORIDE	The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. **WARNING:** This substance has been classified by the IARC as Group 2A: Probably Carcinogenic to Humans. Inhalation (human) TCLo: 500 ppm/ 1 y - I Eye(rabbit): 10 mg - mild

Continued...

CAPSICUM ANNUM OLEORESIN

For capsaicin (as a congener of the capsaicinoids)
High subcutaneous doses of capsaicin were not teratogenic in rats. However, there was evidence that capsaicin crosses the placenta and exerts a toxic effect on the peripheral nerves of foetuses, provoking extensive depletion of substance P from
immunoreactive nerve fibre from the dorsal horn of the spinal cord. Prenatal treatment of rats with high subcutaneous doses of capsaicin (50 mg/kg) caused functional neuronal defects; whereas neonatal treatment caused retarded body growth and sexual maturation, decreased mating frequency and reduced gestations.
Published data on potential mutagenicity and carcinogenicity of capsaicin were inconclusive.
Repeated exposure leads to desensitization. Experimenters who desensitized their tongues to capsaicin found that their taste thresholds for other pungent compounds, such as ginger and mustard, also increased, but their ability to perceive tactile stimuli or basic tastes, such as sweet, salt, sour, or bitter, was not affected. Capsaicin apparently acts via a receptive site in the nociceptor. This site seems also to be involved in the perception of temperatures which are dangerously high (perhaps explaining why pungent foods are perceived as 'hot'). Capsaicin kills the nociceptor, or destroys its peripheral terminals. This has been exploited in the topical use of capsaicin as an analgesic to treat conditions such as shingles and rheumatoid arthritis.
The biological actions of capsaicin are primarily attributable to release of the neuropeptide substance P, calcitonin gene–related peptide (CGRP), and neurokinin A from sensory neurons. These transmitters from primary sensory neurons communicate with other cell types. They produce alterations in the airway mucosa and neurogenic inflammation of the respiratory epithelium, airway blood vessels, glands, and smooth muscle. Alterations in multiple effector organs lead to bronchoconstriction, increased vascular permeability, oedema of the tracheobronchial mucosa, elevated mucosal secretion, and neutrophil chemotaxis. Capsaicin-induced effects of bronchoconstriction, vasodilation, and plasma protein extravasation are mediated by substance P. In addition, substance P can cause bronchoconstriction through stimulation of c-fibers in pulmonary and bronchial circulation
Acute toxicity: Capsaicin can cause skin irritation. Little absorption occurs across the skin. Oedema following dermal exposure in mouse ears in several studies peaked within 1 hour of application, although subsequent applications produced less of a response. Capsaicin can severely irritate the eyes, and was found to cause corneal lesions in rats and mice
Airway resistance increased following inhalation of capsaicin in both mild asthmatics and non-asthmatic people at doses that are below those eliciting the cough response
People suffering from asthma and other respiratory diseases may be more sensitive to capsaicin than other individuals.
A more recent study suggested that people with sensory hyper-reactivity have enhanced sensitivity to capsaicin. This was associated with increased levels of serum nerve growth factors in nasal lavage fluid.
Capsaicin produces its repellent effect when it contacts either eye or respiratory tract mucus membranes. In animals signs of acute exposure include coughing, inability to vocalise, and temporary blindness.
Mice and rats dosed orally with 96 to 200 mg/kg capsaicin demonstrated immediate salivation, convulsions, reddening of the skin, and dyspnea, or labored breathing. Animals either died within 26 minutes of dosing, or showed no further symptoms 24 hours after dosing. Capsaicin fed to rats was rapidly absorbed from the stomach, with 85% of a 3 mg dose absorbed within 3 hours
Inhalation exposure to capsaicinoids in pepper sprays damaged rat bronchial, tracheal, nasal, and alveolar cells, causing acute inflammation.
Carcinogenicity: Several researchers reviewed evidence that capsaicin is carcinogenic in animals and found that the evidence was inconclusive.
Researchers have demonstrated that capsaicin is mutagenic and genotoxic in some studies using bacterial and rodent models but not in others.
Researchers applied pure *trans*-capsaicin to the dorsal skin of mice weekly for 26 weeks at rates of 0.64, 1.28, or 2.56 mg/ mouse/week. No increase of neoplastic skin lesions or other abnormal skin growth was noted over control mice. A lifetime diet containing 0.03% capsaicin fed to mice led to slight increases in benign tumors of the caecum
Capsaicinoids fed to male mice at 1% of the diet for 79 weeks resulted in kidney lesions in male mice. However, female mice fed a diet of 0.25% capsaicinoids for 83 weeks developed fewer tumors compared with controls. Hepatocellular neoplasms, or abnormal growths in the liver, also occurred less often in male and female mice fed greater concentrations of capsaicinoids in their diet.
Genetic toxicity: Capsaicin has demonstrated mutagenic effects in some research but not in other studies. Impurities in the extract may be responsible for mutagenic effects because the studies that failed to demonstrate mutagenic effects used pure capsaicin.
People consuming 90-250 mg of capsaicin per day (in the form of jalapeno peppers) had a greater risk of gastric cancer compared with people who consumed less capsaicin (0-29.9 mg capsaicin per day).
Capsaicin exerted an anti-proliferative effect on human prostate cancer cells in vitro in a dose-dependent manner, completely halting proliferation at 5 x 10-4 mol/L.
Distribution: Rats injected intravenously accumulated capsaicin primarily in the brain and spinal cord 3 minutes after dosing, with lower levels found in the liver and blood. Ten minutes after dosing, the greatest concentrations remained in the spinal cord.
When the capsaicin was injected subcutaneously, rat blood concentrations peaked 5 hours following dosing, and brain and spinal cord tissue concentrations were somewhat lower. Kidneys contained the greatest concentrations and liver concentrations were low. Researchers detected capsaicin in all tissues 10 minutes following dosing but residues were undetectable in any tissues 17 hours later. The researchers concluded that the low concentrations in the liver were due to metabolic breakdown of the capsaicin
Metabolism: Metabolism occurs primarily by the liver in the rat Metabolism of capsaicin by P450 enzymes may follow a number of pathways and produce a variety of metabolites, some of which may be associated with increased toxicity. Research using human, rat, mouse, goat, and rabbit liver and lung microsomes demonstrated that metabolism rates were much greater in liver microsomes compared with lung microsomes for each species. Although the same metabolites were produced, the relative amounts of each metabolite were species-dependent.
Excretion: • Less than 10% of an oral dose of capsaicin given to rats was excreted unchanged 48 hours after dosing
Capsaicin is representative of the capsaicinoids although each may differ in potency Capsaicin is the main capsaicinoid in chili peppers, followed by dihydrocapsaicin. These two compounds are also about twice as potent to the taste and nerves as the minor capsaicinoids nordihydrocapsaicin, homodihydrocapsaicin, and homocapsaicin. The pharmacological action and toxicology of capsaicin has been well developed in both human and animal studies. Capsaicin is highly toxic by all routes of administration except rectal and dermal. Intravenous doses cause convulsions within 5 secs and death within 2 to 5 minutes. Toxic signs include excitement, convulsions with limbs extended, dyspnea and death due to respiratory failure. Capsaicin's acute toxicity in mice falls between that of nicotine and strychnine, two well known potent poisons. The toxicity of the oleoresin which contains capsaicin, in female mice, is around 4 times more toxic than capsaicin alone. Guinea pigs appear to more susceptible than rats and mice whilst hamsters and rabbits were less vulnerable to the toxic effects both capsaicin
Inhalation of capsaicin is consistent with the induction of the Kratshmer reflex, which is apnoea, bradycardia, and a biphasic fall and rise in aortic blood pressure. Exposure to capsaicin cause bronchoconstriction in animals and humans, the release of substance P, a neuropeptide, from sensory nerve terminals and mucosal oedema. The pulmonary effects appear to be species dependent. In guinea pigs, intravenous and intra-arterial administration causes bronchoconstriction. The bronchoconstriction in dog and cat after intravenous capsaicin depends on vagal cholinergic reflex, as does bronchoconstriction in the cat after aerosol exposure. In guinea pig, bronchoconstriction following aerosol exposure suggest both a vagal-cholinergic and non-cholinergic local axon reflex
The burning and painful sensations associated with capsaicin result from its chemical interaction with sensory neurons.
Capsaicin triggers the release of the neuropeptide P from the sensory nerve fibers of the C type. In mammals, capsaicin (a member of the vanilloid family .binds to a receptor called the vanilloid receptor subtype 1 (TRPV1). TRPV1 is an ion channel-type receptor. TRPV1, which can also be stimulated with heat and physical abrasion, permits cations to pass through the cell membrane and into the cell when activated. The resulting depolarisation of the neuron stimulates it to signal the brain. By binding to the TRVP1 receptor, the capsaicin molecule produces the same sensation that excessive heat or abrasive damage would cause, explaining why the spiciness of capsaicin is described as a burning sensation.Research has shown that the capsaicinoids are all physiologically (virtually) identical, with very few differences other than binding efficacy to TRPV1. Upon binding to TRPV1 receptor capsaicin releases sensory neuropeptides that trigger a neurogenic inflammatory response

Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by

Continued...

	dyspnea, cough and mucus production. The material may produce respiratory tract irritation. Symptoms of pulmonary irritation may include coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and a burning sensation. Unlike most organs, the lung can respond to a chemical insult or a chemical agent, by first removing or neutralising the irritant and then repairing the damage (inflammation of the lungs may be a consequence). The repair process (which initially developed to protect mammalian lungs from foreign matter and antigens) may, however, cause further damage to the lungs (fibrosis for example) when activated by hazardous chemicals. Often, this results in an impairment of gas exchange, the primary function of the lungs. Therefore prolonged exposure to respiratory irritants may cause sustained breathing difficulties. Convulsions, excitement, respiratory tract changes recorded.
NITROGLYCERIN	The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis. Substance has been investigated as a tumorigen, mutagen and reproductive effector. Equivocal tumorigen by RTECS criteria. Reproductive effector in rats.
LEAD STYPHNATE	The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.
METHYLENE CHLORIDE & CAPSICUM ANNUM OLEORESIN	The material may produce severe skin irritation after prolonged or repeated exposure, and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) thickening of the epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis. Prolonged contact is unlikely, given the severity of response, but repeated exposures may produce severe ulceration.
CAPSICUM ANNUM OLEORESIN & LEAD STYPHNATE	No significant acute toxicological data identified in literature search.
CAPSICUM ANNUM OLEORESIN & NITROGLYCERIN	The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

Acute Toxicity	✗	**Carcinogenicity**	✓
Skin Irritation/Corrosion	✓	**Reproductivity**	✓
Serious Eye Damage/Irritation	✓	**STOT - Single Exposure**	✓
Respiratory or Skin sensitisation	✗	**STOT - Repeated Exposure**	✓
Mutagenicity	✗	**Aspiration Hazard**	✗

Legend: ✗ *– Data either not available or does not fill the criteria for classification*
✓ *– Data available to make classification*

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Combined Systems MODEL 4340 40mm OC Liquid Barricade Projectile

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
Not Available	Not Available	Not Available	Not Available	Not Available

methylene chloride

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	=13.1mg/L	1
EC50	48	Crustacea	1-682mg/L	2
EC50	96	Algae or other aquatic plants	161.874mg/L	3
NOEC	96	Algae or other aquatic plants	56mg/L	4

Capsicum annum oleoresin

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
Not Available	Not Available	Not Available	Not Available	Not Available

nitroglycerin

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	1.38mg/L	4
EC50	48	Crustacea	46mg/L	4
EC50	96	Algae or other aquatic plants	0.4mg/L	4
BCF	192	Fish	0.42mg/L	4
NOEC	1440	Fish	0.03mg/L	2

lead styphnate

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	0.001-mg/L	2
EC50	48	Crustacea	0.38mg/L	2
EC50	96	Algae or other aquatic plants	0.002-0.655mg/L	2

Continued...

	NOEC	96	Algae or other aquatic plants	0.001-0.3mg/L	2

Legend:	*Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data*

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
methylene chloride	LOW (Half-life = 56 days)	HIGH (Half-life = 191 days)
nitroglycerin	LOW (Half-life = 14 days)	LOW (Half-life = 0.73 days)

Bioaccumulative potential

Ingredient	Bioaccumulation
methylene chloride	LOW (BCF = 40)

Mobility in soil

Ingredient	Mobility
methylene chloride	LOW (KOC = 23.74)

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / Packaging disposal	▸ Explosives must not be thrown away, buried, discarded or placed with garbage. ▸ Explosives which are surplus, deteriorated or considered unsafe for transport, storage or use shall be destroyed and the statutory authorities shall be notified. ▸ This material may be disposed of by burning or detonation but the operation may only be performed under the control of a person trained in the safe destruction of explosives.

SECTION 14 TRANSPORT INFORMATION

Labels Required

	
Marine Pollutant	NO
HAZCHEM	1YE

Land transport (ADG)

UN number	0301
UN proper shipping name	AMMUNITION, TEAR-PRODUCING with burster, expelling charge or propelling charge
Transport hazard class(es)	Class: 1.4G Subrisk: 6.1, 8
Packing group	Not Applicable
Environmental hazard	Not Applicable
Special precautions for user	Special provisions: Not Applicable Limited quantity: 0

Air transport (ICAO-IATA / DGR)

UN number	0301
UN proper shipping name	Ammunition, tear-producing with burster, expelling charge or propelling charge
Transport hazard class(es)	ICAO/IATA Class: 1.4G ICAO / IATA Subrisk: 6.1, 8 ERG Code: 1CP
Packing group	Not Applicable
Environmental hazard	Not Applicable

Continued...

Special precautions for user	Special provisions	Not Applicable
	Cargo Only Packing Instructions	130
	Cargo Only Maximum Qty / Pack	75 kg
	Passenger and Cargo Packing Instructions	Forbidden
	Passenger and Cargo Maximum Qty / Pack	Forbidden
	Passenger and Cargo Limited Quantity Packing Instructions	Forbidden
	Passenger and Cargo Limited Maximum Qty / Pack	Forbidden

Sea transport (IMDG-Code / GGVSee)

UN number	0301	
UN proper shipping name	AMMUNITION, TEAR-PRODUCING with burster, expelling charge or propelling charge	
Transport hazard class(es)	IMDG Class	1.4G
	IMDG Subrisk	6.1, 8
Packing group	Not Applicable	
Environmental hazard	Not Applicable	
Special precautions for user	EMS Number	F-B , S-Z
	Special provisions	Not Applicable
	Limited Quantities	0

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

SECTION 15 REGULATORY INFORMATION

Safety, health and environmental regulations / legislation specific for the substance or mixture

METHYLENE CHLORIDE(75-09-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List
Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes
Australia Exposure Standards
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australia Inventory of Chemical Substances (AICS)
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Part 2, Section Seven - Appendix I
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5
GESAMP/EHS Composite List - GESAMP Hazard Profiles
IMO IBC Code Chapter 17: Summary of minimum requirements
IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
International Air Transport Association (IATA) Dangerous Goods Regulations
International Maritime Dangerous Goods Requirements (IMDG Code)
United Nations Recommendations on the Transport of Dangerous Goods Model Regulations

CAPSICUM ANNUM OLEORESIN(68917-78-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)

NITROGLYCERIN(55-63-0) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List
Australia Dangerous Goods Code (ADG Code) - Goods Too Dangerous To Be Transported
Australia Explosives Code (AE Code)
Australia Exposure Standards
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australia Inventory of Chemical Substances (AICS)
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix A
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix G
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Index
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 3
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4
International Air Transport Association (IATA) Dangerous Goods Regulations
International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft
International Maritime Dangerous Goods Requirements (IMDG Code)
United Nations Recommendations on the Transport of Dangerous Goods Model Regulations

LEAD STYPHNATE(63918-97-8) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List
Australia Dangerous Goods Code (ADG Code) - Goods Too Dangerous To Be Transported
Australia Explosives Code (AE Code)
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australia Inventory of Chemical Substances (AICS)
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Index
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 10 / Appendix C
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
International Air Transport Association (IATA) Dangerous Goods Regulations
International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft
International Maritime Dangerous Goods Requirements (IMDG Code)
United Nations Recommendations on the Transport of Dangerous Goods Model Regulations

National Inventory Status

Continued...

National Inventory	Status
Australia - AICS	Yes
Canada - DSL	Yes
Canada - NDSL	No (lead styphnate; Capsicum annum oleoresin; methylene chloride; nitroglycerin)
China - IECSC	No (lead styphnate; nitroglycerin)
Europe - EINEC / ELINCS / NLP	No (Capsicum annum oleoresin)
Japan - ENCS	No (Capsicum annum oleoresin)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	No (lead styphnate)
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No (Capsicum annum oleoresin)
Vietnam - NCI	No (lead styphnate)
Russia - ARIPS	No (lead styphnate; Capsicum annum oleoresin)
Thailand - TECI	No (lead styphnate; nitroglycerin)
Legend:	*Yes = All CAS declared ingredients are on the inventory* *No = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)*

SECTION 16 OTHER INFORMATION

Revision Date	13/03/2019
Initial Date	10/06/2014

SDS Version Summary

Version	Issue Date	Sections Updated
3.1.1.1	13/06/2014	Classification, Physical Properties
4.1.1.1	13/03/2019	Expiration. Review and Update

Other information

Ingredients with multiple cas numbers

Name	CAS No
Capsicum annum oleoresin	68917-78-2, 8023-77-6
lead styphnate	63918-97-8, 15245-44-0, 6594-85-0

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
PC—STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit。
IDLH: Immediately Dangerous to Life or Health Concentrations
OSF: Odour Safety Factor
NOAEL :No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index

end of SDS